



MTA Cryogenics - status

(07/29/05)

Cryogenic System for MTA Solenoid Magnet

➤ Fieldwork

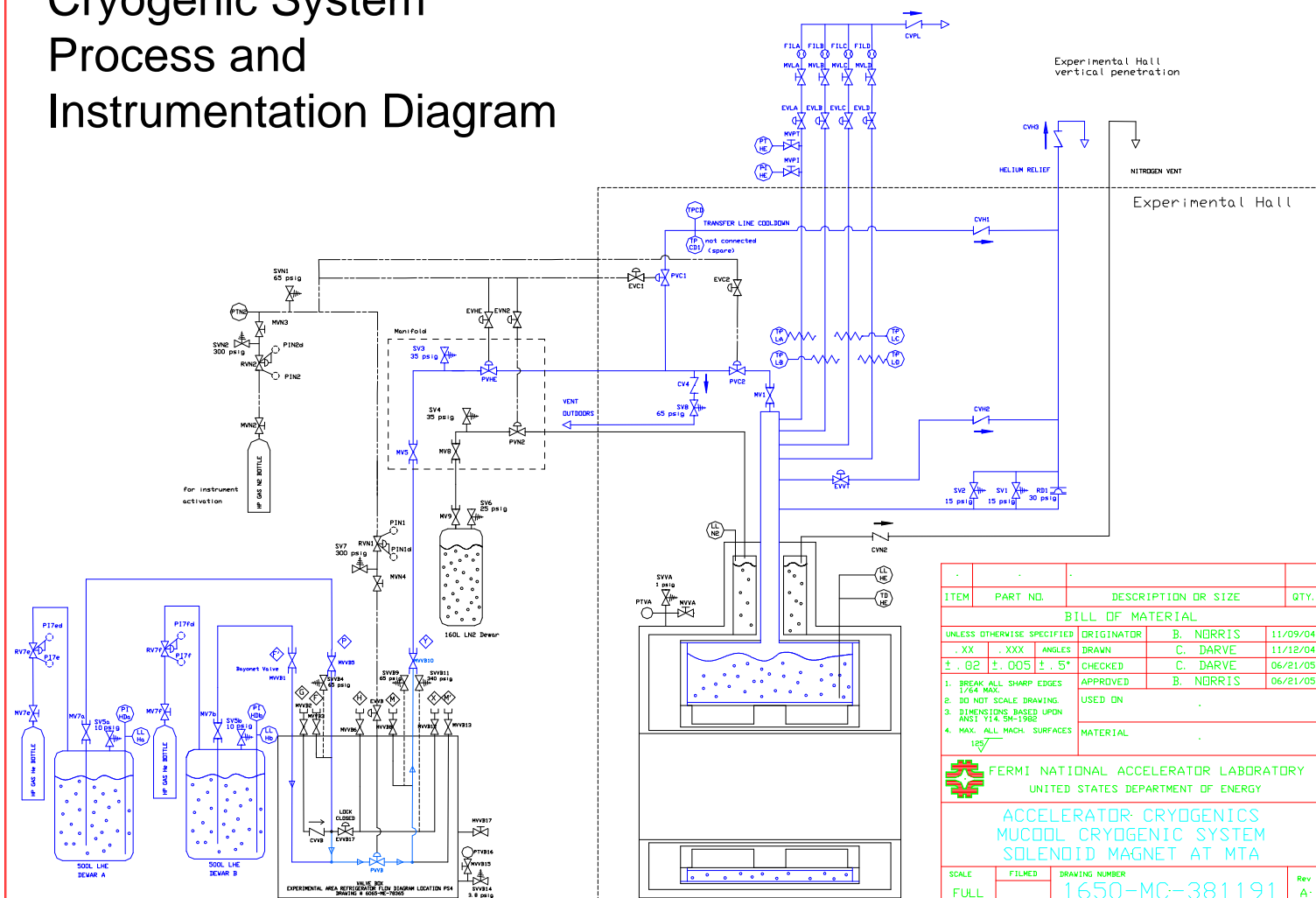
- ✓ Installation of existing LabG Solenoid Magnet transfer lines
- ✓ Instrumentation installation
- ✓ Piping and relief systems
- ✓ Electrical cabling
- ✓ New PLC for Helium and Nitrogen Dewar changes

➤ Safety

- ✓ Engineering and safety documents
- ✓ Safety walkthrough (Friday July 15th)
- Complete required modifications

Cryogenic system for MTA Solenoid Magnet

Cryogenic System Process and Instrumentation Diagram

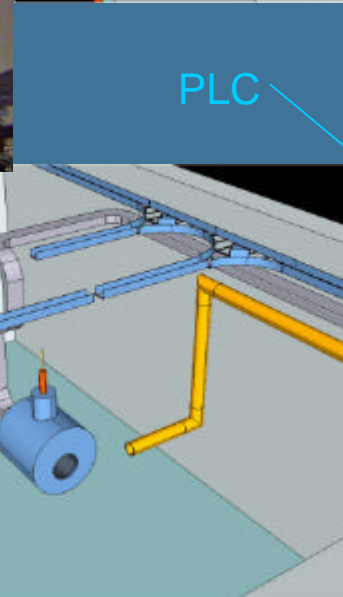
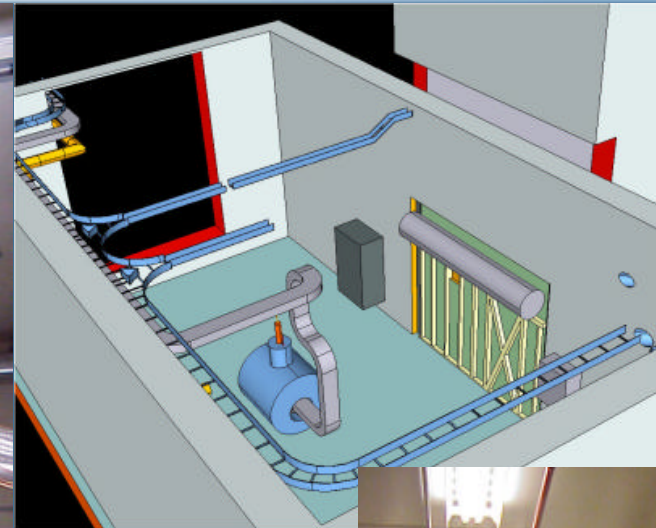
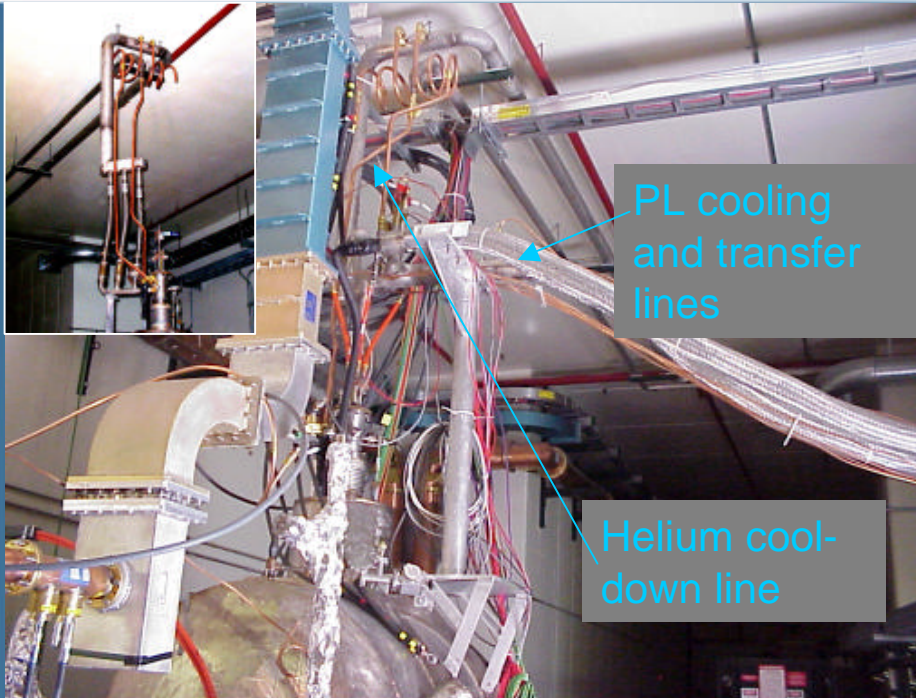


REV.	DESCRIPTION	DRAWN / DATE
A	Add SVVA, MVVA and PTVA	Christine Darve 07/20/05

ITEM	PART NO.	DESCRIPTION OR SIZE	QTY.
BILL OF MATERIAL			
UNLESS OTHERWISE SPECIFIED			
XX	XXX	ANGLES	11/09/04
± .02	± .005	± .5°	11/12/04
1. BREAK ALL SHARP EDGES	CHECKED	C. DARVE	06/21/05
2. 3D NOT SCALE DRAWING	APPROVED	B. NDRIS	06/21/05
3. DIMENSIONS BASED UPON ANSI Y14.5M-1982	USED ON		
4. MAX. ALL MACH. SURFACES	MATERIAL		
1657			
FERMI NATIONAL ACCELERATOR LABORATORY UNITED STATES DEPARTMENT OF ENERGY			
ACCELERATOR CRYOGENICS MUCOOL CRYOGENIC SYSTEM SOLENOID MAGNET AT MTA			
SCALE	FULL	DRAWING NUMBER	Rev
		1650-MC-381191	A
CREATED WITH AutoCAD LT		USER NAME:	darve



Cryogenic system for MTA Solenoid Magnet



Helium and Nitrogen transfer lines

Cryogenic system for MTA Solenoid Magnet

➤ Cryogenic Safety Review - Green light and Recommendations

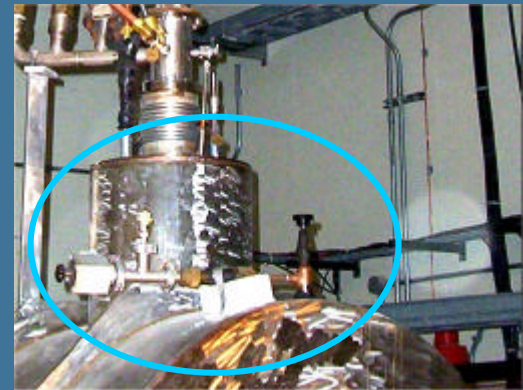
- ✓ Add relief system to MTA Solenoid Magnet vacuum jacket

- Use 1 inch parallel plate
CVI seal-off
and thermocouple

- ✓ Update existing Solenoid Magnet
LHe vessel EN for fire condition

- relief system is not modified

- Provide operational procedures to safety panel



➤ Monitor fan operation to maintain Experimental Hall ODH 0 by using a flow switch installed @ duct ventilation flow

- ✓ Design and control issues (PBar example)

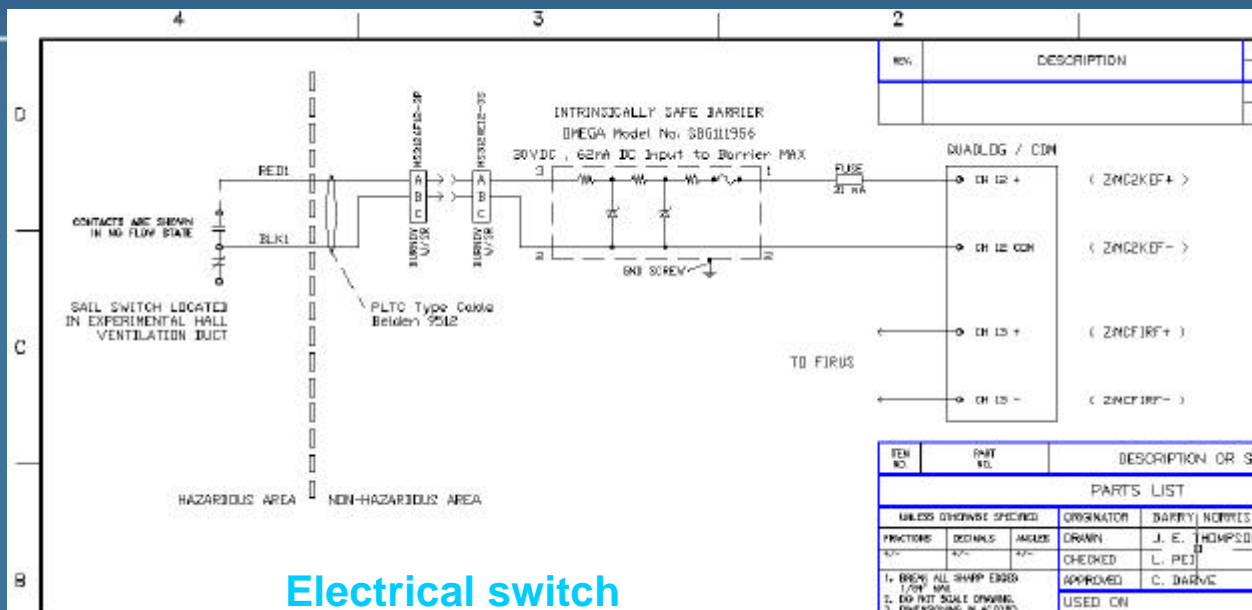
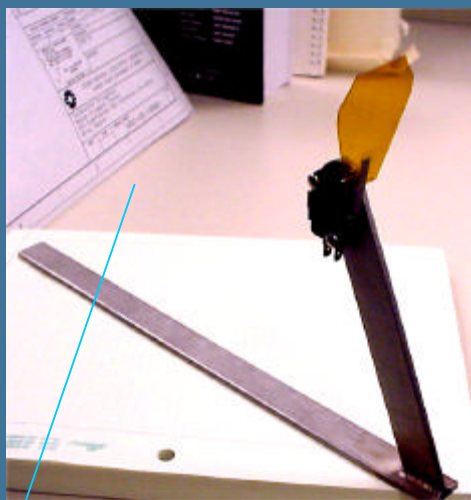
- ✓ FIRUS and Quadlog safety PLC

- MCR: send the operational procedure in case of FIRUS Alarm

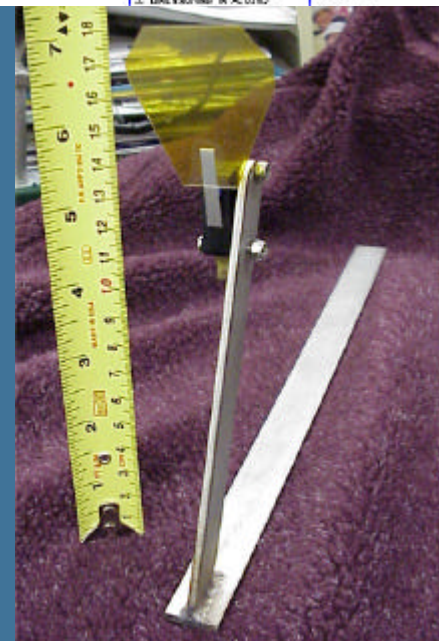
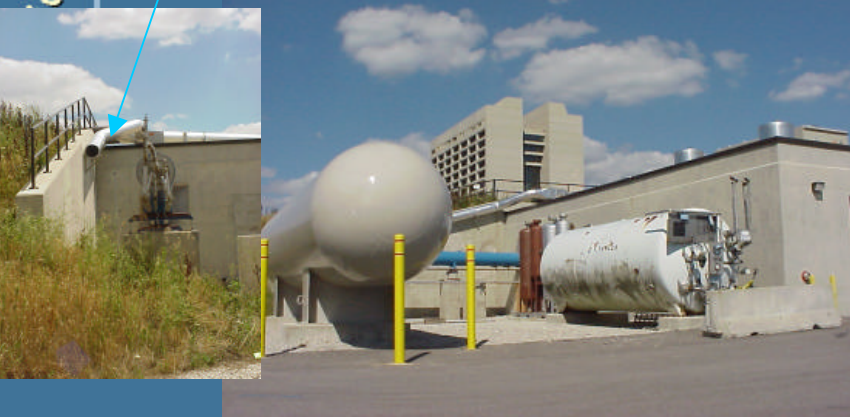


Cryogenic system for MTA Solenoid Magnet

Flow switch with
intrinsically safe
barrier



Department



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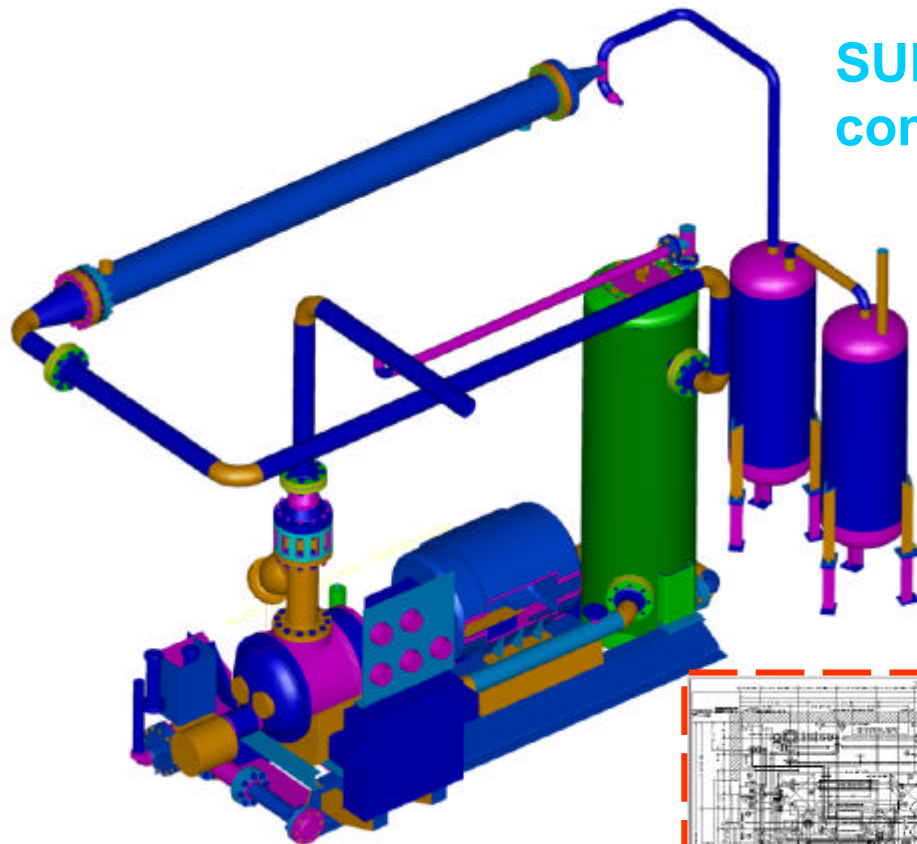
Compressor and Fridge Buildings Piping contract

- **Moved and connected**
 - ✓ two (2) : SULLAIR compressors + 2 coalescers + 1 aftercooler
 - ✓ two (2) purification skids
 - ✓ Nitrogen and Helium storage vessels
- **Mechanical INC. makes excellent progress to complete installation by August 18th**
- **Radiographic test (5% of total weld number) - 12 welds**

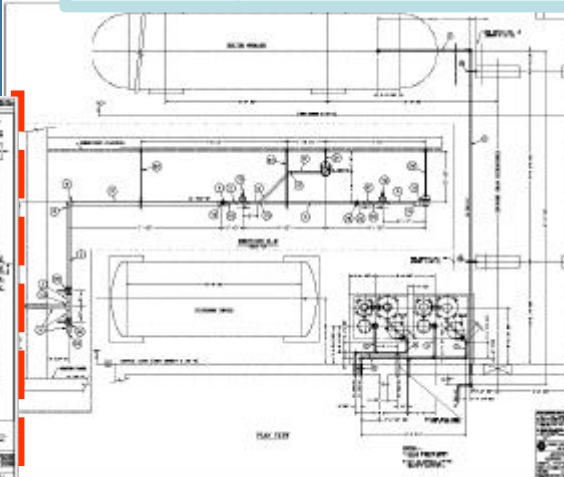
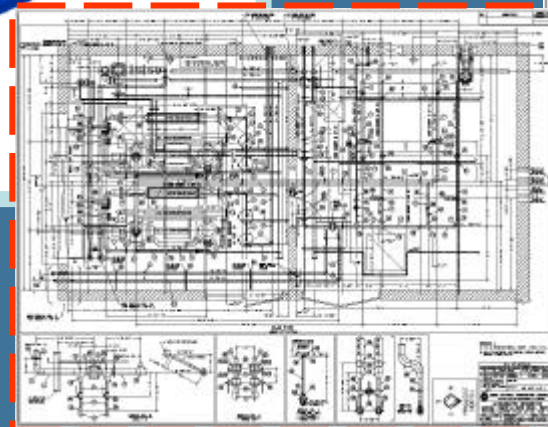
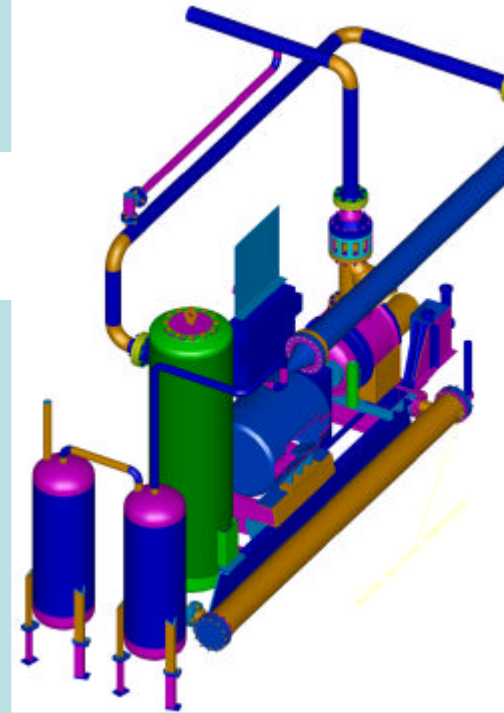


Compressor & Fridge Buildings Piping Contract

From concept ...



SULLAIR
compressor set





Compressor & Fridge Buildings Piping Contract

To reality

Fridge
building ↓

Compressor
building →

